

WHAT IS CLAIMED IS:

1. A display interface device for use in determining a currently tuned-to channel of a set-top converter box having an electronic display, said electronic display indicating said currently tuned-to channel in response to drive signals provided thereto by said set-top converter device, said display interface device comprising:
- an electrical connection to said electronic display, said electrical connection being adapted to communicate said drive signals;
- a controller, said controller being connected to said electronic display by said electrical connection and receiving said drive signals transmitted to said electronic display,
- wherein said controller receives and interprets said drive signals to generate information representative of said currently tuned-to channel.
2. The display interface as recited in claim 1, wherein said electronic display comprises at least one seven-segment display element, and wherein said seven-segment display element is adapted to display an alphanumeric character representation of said currently tuned-to channel of said set-top converter box.
3. The display as recited in claim 2, wherein said drive signals are provided to plural seven-segment display elements in said electronic display using a multiplexing scheme in order to display each alphanumeric character of said currently tuned-to channel, and wherein said drive signals are input to said controller and sampled to determine said currently tuned-to channel.
4. The display interface as recited in claim 3, wherein said drive signals comprise scan signals provided over scan lines that selectively enable one seven-segment display element in said electronic display and segment signals provided over segment lines that drive each segment of said seven-segment display element, said wherein said scan lines and said segments lines are input to predetermined pins of an input/output port of said controller in order to determine said currently tuned-to channel.

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5. The display interface as recited in claim 4, wherein said information representative of said tuned channel comprises an ASCII value representative of said currently tuned-to channel, and wherein said controller outputs said ASCII value to a viewership meter connected to said display interface via a second electrical connection.

5 6. The display interface as recited in claim 5, wherein said viewership meter comprises an audio matching circuit, said audio matching circuit comparing a first audio signal of a predetermined channel tuned by said viewership collection meter with a second audio signal output by a television to which said set-top converter is connected, wherein if said first audio signal and said second audio signal match, said viewership
10 collection meter determines that said channel to which said set-top converter box is tuned is ~~said predetermined channel~~.

7. The display interface as recited in claim 1, wherein said information representative of said tuned channel is output to a second device connected to said display interface via a second electrical connection, and wherein said second device receives and
15 further processes said information representative of said currently tuned-to channel.

Suba37 8. The display interface as recited in claim 7, wherein said second device comprises a viewership collection meter, and wherein said viewership collection meter stores said information representative of said currently tuned-to channel and forwards it to a predetermined location at selected times.

20 9. The display interface as recited in claim 8, wherein said information representative of said tuned channel comprises an ASCII value representative of said currently tuned-to channel, and wherein said controller outputs said ASCII value to said viewership meter via said second electrical connection.

10. The display interface as recited in claim 7; wherein said display interface board is adapted to receive power and additional data via said second electrical connection.

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11. A system for determining viewership of channels tunable by a set-top converter box having an electronic display, said system comprising:

a display interface device connected to said electronic display; and
a viewership collection meter connected to said display interface, said viewership meter periodically storing a channel to which said set-top converter is tuned,

wherein said channel to which said set-top converter is tuned is
10 determined by said display interface and communicated to said viewership collection meter, and wherein said viewership collection meter stores said channel and forwards it to a predetermined location at selected times.

12. The system for determining viewership of channels tunable by a set-top converter box as recited in claim 11, wherein said viewership collection meter further
15 comprises an audio matching circuit, said audio matching circuit comparing a first audio signal of a predetermined channel tuned by said viewership collection meter with a second audio signal output by a television to which said set-top converter is connected, wherein if said first audio signal and said second audio signal match, said viewership collection meter determines that said channel to which said set-top converter box is tuned is said predetermined
20 channel.

13. The display interface as recited in claim 11, wherein said electronic display comprises at least one seven-segment display element, and wherein said seven-segment display element is adapted to display an alphanumeric character representation of said currently tuned-to channel of said set-top converter box.

14. The display as recited in claim 13, said display interface comprising a
25 controller, wherein said drive signals are provided to plural seven-segment display elements

in said electronic display using a multiplexing scheme in order to display each alphanumeric character of said currently tuned-to channel, and wherein said drive signals are input to said controller and sampled to determine said currently tuned-to channel.

15. The display interface as recited in claim 14, wherein said drive signals
5 comprise scan signals provided over scan lines that selectively enable one seven-segment display element in said electronic display and segment signals provided over segment lines that drive each segment of said seven-segment display element, said wherein said scan lines and said segments lines are input to predetermined pins of an input/output port of said controller in order to determine said currently tuned-to channel.

10 16. A method of determining a channel to which a set-top converter box is tuned using a display interface, said set-top converter comprising an electronic display that is driven by drive signals, said method comprising:

receiving drive signals at said display interface;

determining a channel to which said set-top converter box is tuned by

15 sampling said drive signals;

generating a coded representation of said determined channel; and

outputting said coded representation.

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Sub A 17. The method as recited in claim 16, wherein said electronic display
20 comprises at least one seven-segment display element, and said drive signals comprise scan signals provided over scan lines that enable each seven-segment display element and segment signals provided over segment lines that drive each segment of said seven-segment display element, said step of determining a channel to which said set-top converter box is tuned further comprising:

(a) determining if a scan line for said seven-segment display element

25 ~~is active~~

(b) if said scan line is active at step (a), then determining which of said segment lines are active to determine character being displayed by said seven-segment display element; and

(c) repeating steps (a) and (b) for each seven-segment display element
5 ~~in said electronic display.~~

18. The method as recited in claim 16, wherein said step of generating a coded representation of said determined channel comprises generating an ASCII value of said channel to which said set-top converter box is tuned.

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10 19. The method as recited in claim 18, wherein said step of outputting said coded representation comprises serially transmitting said ASCII value to a viewership meter.

20. The method as recited in claim 19, further comprising:
storing, at said viewership meter, said ASCII value; and
forwarding said ASCII value at predetermined times to a central
~~collection site.~~